

What is claimed is:

1. A method for providing a stand-alone testing environment for a test object functional element of a computer system, said test object functional element having a plurality of interfaces for coupling with other elements of said computer system, said interfaces being of a type which provide communication between functional elements and which employ a predetermined interface protocol for inter-processing communication whose mode of operation involves a shared memory such that information communicated through said interfaces is passed between said functional elements by a process of notifying the addressed functional element that information is ready and providing the addressed functional element with its location in said shared memory, said method comprising:

providing a computerized dialog to enable a user to create an input data file for said test object functional element in a form for subsequently being stored in an identifiable location in said shared memory;

prompting a user for at least one functional element

interface task which has been previously developed
utilizing said stand-alone testing environment and
which is of a form compliant with said predetermined
interface protocol and which is stored with its
identifiable location in said shared memory;

starting said at least one functional interface task

utilizing said computer dialog created input data
file; and

monitoring said plurality of interfaces.

2. The method of claim 1 further comprising starting a user
supplied application system task along with said at least one
functional interface task.

3. The method of claim 1 further comprising displaying a
status window while running said at least one functional
interface task.

4. The method of claim 1 wherein said predetermined interface protocol is further of a type in which the location of information is distributed among a set of at least two hierarchical levels of a database formed in association with said shared memory, said hierarchical levels being organized by degree of generality of functional interface task information to be stored therein, and the method further comprises:

creating a test case generation file by providing the user with a corresponding set of task creation options related to said at least one functional interface task individually operative with a degree of generality of functional task information that is to be stored in a corresponding individual level of said set of at least two hierarchical levels of said database.

5. The method of claim 1 further comprising storing a unique interface file corresponding to said at least one functional element interface task.

6. The method of claim 1 further comprising storing said input data file in a user defined file such that said user defined

file may be viewed and edited outside of said stand alone testing environment.

7. A method for testing a test object functional element of a computer system with a stand- alone functional element test tool, said test object functional element having at least one interface for communicating with other functional elements of said computer system, said at least one interface having a predetermined interface protocol for inter-processing communication, said method comprising:

creating an input data file for said test object functional element by prompting a user for data format and content compatible with said predetermined interface protocol;

storing said input data file;

creating a test generation file by providing said user with
a plurality of task creation options whereby selected
task creation options are input into said test
generation file which is written in a predetermined
high level interface programmers' language adapted for
compilation into computer code executable statements
compatible with said predetermined protocol;

compiling said test generation file and said input data
file to produce a test case executable file in a
preferred programming language based on said selected
task creation options;

initiating a test utilizing said test case executable file
and said input data file for testing said test object
functional element and said at least one interface by
monitoring a status of said test; and

storing test result data related to said test.

8. The method of claim 7 wherein said step of creating a test generation file further comprises selecting test initiation features.

9. The method of claim 7 wherein said step of creating a test generation file further comprises providing for at least one user defined button.

10. The method of claim 9 wherein said at least one user defined button is user operable for said step of initiating said test.

11. The method of claim 7 wherein said predetermined interface protocol for inter-processing communication employs a mode of operation involving a memory shared among said test object and said other functional elements and in which information to be communicated through the interface is passed between functional elements by a process of notifying an addressed functional element that data is ready and providing the addressed functional element with a corresponding location in said shared memory, said interface protocol further being of a type in which a location of information is distributed among a set of at least two hierarchical levels of a database formed in association with

said shared memory, said hierarchical levels being organized by degree of generality of functional interface task information, and the method further comprises:

said step of providing the user with a plurality of task options including providing at least one corresponding set of options individually operative with a corresponding individual level of said set of at least two hierarchical levels of said database.

12. The method of claim 11 further comprising displaying said input data to a user on a file viewer.

13. The method of claim 7 further comprising comparing said test result data with expected results from said test object functional element utilizing said input data file.

14. A system operative for testing performance validity and accuracy of a test object functional element, said test object functional element forming a portion of a computer system, said test object functional element having a plurality of communication interfaces with said test object functional

element constrained to be operatively responsive to a predetermined interface communication protocol, said system comprising:

a test case data file producing subsystem for facilitating the production by a user of at least one file of test case data, said test case data producing subsystem being operative for identification of an input data structure and to utilize said input data structure to prompt a user for input values of said test case data, said test case data producing subsystem being operative to store said at least one file of test case data;

a test case generation file producing subsystem for facilitating the production by said user of a test case generation file, said test case generation file producing subsystem providing a plurality of user interface task options to provide the user with a choice among them in developing a test case generation file of a selected at least one interface task of said plurality of interface tasks, said selected at least

one interface task being for communication to said
test object functional element through a first
predetermined at least one communication interface;
and

a test case execution subsystem to effect operation of said
test object functional element based on said user
selected at least one interface task and said at least
one file of test case data, whereby said test case
execution subsystem enables said user to test said
test object functional element for validity and
accuracy of its operation by monitoring a second
predetermined at least one of the remaining
communication of interfaces of said plurality of
communication interfaces.

15. The system of claim 14 wherein:

said input data structure is utilized to prompt a user for
test case data being in a form cooperatively
associated with said predetermined interface
communication protocol to constrain said at least one

test case data file to be compatible with said
predetermined interface protocol;

said plurality of user interface task options provided by
said test case generation file producing subsystem
being in form cooperatively associated with said
predetermined interface communication protocol to
constrain said selected at least one interface task to
be written in a predetermined high level interface
programmers' language adapted for compilation into
computer code executable statements compatible with
said predetermined interface protocol; and

said operation of said test object functional element
effected by said test case execution subsystem
comprising said operation of said test object
functional element using a file of compiled executable
statements based upon said test case data and said
test case generation file.

16. The system of claim 14 and:

said interface communication protocol being a protocol for inter-process communication of an application interface task from said test object functional element to at least one other functional element which also forms a portion of said computer system;

said plurality of interfaces including a subsystem for implementing said inter-process communication interface protocol comprising a memory operatively connected to said test object functional element and to said at least one other functional element by an arrangement whereby said functional elements share said memory; and

said subsystem for implementing the inter-process communication interface protocol employing a mode of operation in which data to be communicated through an interface is passed between functional elements by a process of notifying the functional element to which an application interface task is to be communicated that

data is ready and providing the addressed functional element with the location of the data in said shared memory.

17. The system of claim 14 wherein said test case execution subsystem is operable to effect operation of another test object functional element simultaneously with operation of said test object functional element.

18. The system of claim 17 wherein said test case execution subsystem is operable to monitor said at least one interface between said test object function element and said another test object functional element.

19. The system of claim 16 and:

said shared memory being adapted to form a database having a set of at least two hierarchical database levels organized by degree of generality of interface task information; and

said plurality of user interface task options provided by
said test case generation file producing subsystem
including providing at least one corresponding set of
options individually operative solely with a
corresponding level of said set of at least two
hierarchical levels of said database.

20. The system of claim 15 wherein said test case generation
file producing subsystem is operative to provide the user a
choice among a plurality test initiation events to cause the
test to be performed upon a selected test initiation event to
start flow of said test case data into said first functional
element.